

Daniel Schwiebert

From: Steve Neil <steven.stuart.neil@gmail.com>
Sent: Friday, December 6, 2019 2:39 PM
To: LMarquezPeterson-Web
Subject: APS rates are extremely complicated; just ask the APS programmers!
Attachments: One man's attempt to understand an APS bill.pdf

Commissioner Peterson,

I appreciate the attention to detail you bring to your work as a commissioner. It is in that vein that I write to you today in advance of next week's commission meeting with APS representatives regarding docket [E-01345A-19-0003](#), the APS rate review case.

I'm hoping you can get answers from APS during the meeting as to why the APS bill is so complicated and why APS has done so little on their website and in the training of their customer-facing staff to facilitate full understanding of the bill and the many components that make it up. **It is not a far stretch to say that the APS rate comparison tool problem that ratepayers discovered - the genesis for Wednesday's hearing - is just one more ugly manifestation of rate structures and adjustment schedules that are overly complicated. All the APS programmers and consultants and quality control testers and management did not completely understand the matter.**

I have attached a 6-page report I wrote up during and after my attempt to completely understand my most recent APS bill. I hope it well communicates to you and your fellow commissioners and to Utilities Division staff (and to APS) how much the Commission's attention and authority is needed on APS rate and billing matters. We can't wait a year or more for improvement. I think APS also wants to fix things ASAP, but it is clear that additional scrutiny by the Commission is going to be needed for action to equal what the Commission's decision stated.

In regard to who speaks Wednesday, I'm hoping that the Commission is planning to hear from more than just APS representatives and that those of us who have spent a lot of time working on these issues on behalf of all APS ratepayers will have an opportunity to briefly describe what we have learned from many, many hours of work on these important matters to all APS ratepayers.

To me, it is a crying shame that Arizona's largest utility does such an inadequate job of presenting accurate and clear information about what I feel is the most crucial of their functions - the monthly bill. I encourage you and all the commissioners to do everything you can to get APS to fix this situation as soon as possible.

--Steve Neil

One man's attempt to understand an APS bill

Steve Neil, November 15, 2019

I find my APS electric bill to be very confusing and complicated. It might be helpful to know that I'm a computer programmer and analyst with decades of experience dealing with data and dollar figures, and it still took a lot of time and effort to come to understand the bill and to prove it to be accurate per the tariffs approved by the Arizona Corporation Commission.

My APS bill has 17 line items in the electricity part and another 5 lines in the taxes section. I went to the APS website for help and found this page: <https://www.aps.com/en/Residential/Billing-and-Payment/Understanding-Your-Bill>

Making sense of your bill

It's easier to understand the charges when you understand what they mean. Check out these sample monthly bills with an explanation of charges. Even if you're on a different plan, your bill will look similar with many of these same line items.

[View sample bill](#)

Yes! Let's make sense of my bill.

To view the sample bill (not the plural "bills" described in the text), it forced me to log in. (Hey! What if I didn't have an APS.com login and just wanted help understanding the paper bill in my hand?)

Then it showed me the line items of a rate plan different from mine. Very strange. If forced to log in, why doesn't APS show a sample bill for the ratepayer's current rate plan?

Well, here's what the top portion of this sample bill web page looks like:

①	Customer account charge	\$2.19
②	Delivery service charge	\$11.19
③	Demand charge on-peak - delivery	\$32.40
④	Environmental benefits surcharge	\$5.27
⑤	Federal environmental improvement surcharge	\$0.11

This sample matches up well with my bill. Hovering over any of the blue circles displays a description of the charge such as this:

- ① The minimum charge for having service available, whether you used electricity or not \$2.19
- ② Delivery service charge \$11.19

That is helpful in better understanding the name and nature of the charge, but not helpful at all in understanding the money column on all of our bills. And it doesn't give any clues as to where to look next. I searched the Internet and was able to find the tariff sheet for my rate plan, but I eventually learned that the tariff sheet terminology didn't match up well with the bill terminology. Remember APS picked all these words.

Examples of differences in terminology	
Bill says:	Tariff sheet says:
Delivery service charge	Delivery Charge
Federal environmental improvement surcharge The EIS tariff says this is to pay for things mandated by federal, state, local governments, so why do they only say "federal"?	Environmental Improvement Surcharge
Federal transmission and ancillary services Again, the use of the word "federal" and the "my bill" webpage's additional explanation does not mention the word at all.	Transmission Charge
Environmental benefits surcharge	No such tariff sheet. But I did find the term in the endnotes of 2 adjustment tariffs.

The rate plan tariff sheets, Saver Choice Max being mine (online at <https://www.aps.com/-/media/APS/APSCOM-PDFs/Utility/Regulatory-and-Legal/Regulatory-Plan-Details-Tariffs/Residential/Service-Plans/SaverChoiceMax.ashx>), have a fairly clear summary of charges like this (*italics denote text I added for clarity*):

Bundled Charges

Basic Service Charge	\$0.427	per day
----------------------	---------	---------

	Summer (May - Oct bills)	Winter (Nov - Apr bills)	
On-Peak Demand Charge:	\$17.438	\$12.239	per kW
On-Peak Energy Charge:	\$0.08683	\$0.06376	per kWh

Off-Peak Energy Charge:	\$0.05230	\$0.05230	per kWh
-------------------------	-----------	-----------	---------

But take note of the word “bundled”. After this summary, APS gives the detail of the components of the bundle. For example, the Basic Service Charge bundle consists of these charges:

Basic Service Charge Components

Customer Accounts Charge:	\$0.073	per day
Metering Charge	\$0.201	per day
Meter Reading Charge	\$0.072	per day
Billing Charge	\$0.081	per day

There are 5 bundles in the tariff and each one breaks out into multiple lines on the bill:

Bundle name on rate plan tariff sheet	Line items on bill
Basic Service Charge	4
On-Peak Demand Charge	2
On-Peak Energy Charge	1 + 3*
Off-Peak Energy Charge	1 + 3*
Adjustments	6

*+3 is because kilowatt-hours, without regard to on-peak or off, are billed on these 3 additional bill lines:

1. Delivery service charge
2. System benefits charge
3. Federal transmission and ancillary services

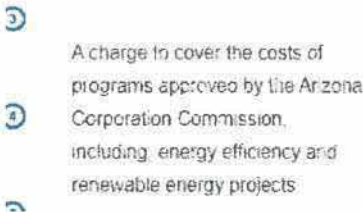
As complicated as the bundled/unbundled issue might seem, that is seemingly simple stuff compared to the surcharges/adjustments/adjustors. The [saver choice max](#) tariff sheet lists these 7 adjustments:

1. The Renewable Energy Adjustment Charge, Adjustment Schedule REAC-1.
2. The Power Supply Adjustment charges, Adjustment Schedule PSA-1.
3. The Transmission Cost Adjustment charge, Adjustment Schedule TCA-1.
4. The Environmental Improvement Surcharge, Adjustment Schedule EIS.
5. The Demand Side Management Adjustment charge, Adjustment Schedule DSMAC-1.
6. The Lost Fixed Cost Recovery Adjustment charge, Adjustment Schedule LFCR.
7. The Tax Expense Adjustor Mechanism charge, Adjustment Schedule TEAM.

I was able to find these adjustment tariffs at:

<https://www.aps.com/en/Utility/Regulatory-and-Legal/Rates-Schedules-and-Adjustors>

But like the differences in terminology I described above, APS also decided to change things up for these bill line items!

Examples of differences in Adjustment Schedule terminology	
Bill says:	Tariff sheet says:
Environmental benefits surcharge	<p>No such adjustment schedule!</p> <p>Googling this term, I learned that it is a combination of these two adjustment schedules:</p> <p>1. The Renewable Energy Adjustment Charge, Adjustment Schedule REAC-1 5. The Demand Side Management Adjustment charge, Adjustment Schedule DSMAC-1</p> <p>The "understanding your bill" page offers this:</p> <div>  <p>Accurate but not helpful in finding the adjustment schedules</p> </div>
Federal environmental improvement surcharge	Environmental Improvement Surcharge
LFCR adjustor (<i>acronym</i>)	Lost Fixed Cost Recovery Mechanism

Well, slogging through this mess and confusion, I think I have figured out all the line items of the electricity portion of my bill, and the table below that I built has links to all the tariffs and the math behind each charge.

My November 2019 bill (if you are reading this, you are free to share including this data of mine in the middle column)

Line item on bill I added this color code grouping: Green = Basic Service Charge Orange = Energy charge Red = Demand charge Pink = Adjustment outside of rate plan (Notice below how ungrouped the charges are.)	My Nov 2019 bill amt	Tariff name (saver choice max is 'scm' below) Tariff details and calculation (<i>Italics denote APS tariff terminology</i>)
Customer account charge	2.19	scm \$0.073/day * 30 days = 2.19 (unbundled portion of scm <i>Basic Service Charge</i>)
Delivery service charge	21.04	scm \$0.01105 * 1904 billed kWh = 21.04 (unbundled portion of scm <i>kWh charge</i>)
Demand charge on-peak - delivery	21.20	scm \$4.000/kW * 5.3 billed kW = 21.20 (an unbundled portion of <i>On-Peak Demand Charge</i> . See also <i>Demand charge on-peak - generation</i>)
Environmental benefits surcharge	4.15	Adjustment Schedule REAC-1 \$0.007513/kwh * 1904 kWh = 14.30, maximum \$2.28 plus Adjustment Schedule DSMAC-1 0.000982/kWh * 1904 kWh = 1.87

		Total = 4.15
Federal environmental improvement surcharge Why "federal"? Tariff doesn't emphasize the word.	0.48	<u>Adjustment Schedule EIS</u> A flat \$0.48 per account
System benefits charge	5.26	<i>scm</i> 0.00276/kWh * 1904 kWh = 5.26 (unbundled portion of <i>scm kWh charge</i>)
Power supply adjustment*	3.16	<u>Adjustment Schedule PSA-1</u> \$0.001658/kWh * 1904 kWh = 3.16
Metering*	6.03	<i>scm</i> \$0.201/day * 30 days = 6.03 (unbundled portion of <i>scm Basic Service Charge</i>)
Meter reading*	2.16	<i>scm</i> \$0.072/day * 30 days = 2.16 (unbundled portion of <i>scm Basic Service Charge</i>)
Billing*	2.43	<i>scm</i> \$0.081/day * 30 days = 2.43 (unbundled portion of <i>scm Basic Service Charge</i>) <u>Bundle Components</u> Account charge 2.19 Metering 6.03 Meter reading 2.16 Billing 2.43 ----- Bundle Total 12.81 <i>scm bundled Basic Service Charge of</i> \$0.427/day * 30 days = 12.81
Generation of electricity on-peak*	9.75	<i>scm</i> Winter \$0.03898/kWh * 250 kWh = 9.75 (unbundled portion of <i>scm kWh charge</i>)
Generation of electricity off-peak*	45.52	<i>scm</i> Winter \$0.02752/kWh * 1654 kWh = 45.52 (unbundled portion of <i>scm kWh charge</i>)
Demand charge on-peak - generation*	43.67	<i>scm</i> Winter \$8.239/kW * 5.3 billed kW = 43.67 (an unbundled portion of <i>On-Peak Demand Charge</i> . See above - <i>Demand charge on-peak - delivery</i>) <i>Demand charge on-peak - generation</i> 21.20 <i>Demand charge on-peak - delivery</i> 43.67 ----- Bundle Total 64.87 <i>scm bundled Winter On-Peak Demand Charge of</i> \$12.239/kW * 5.3 billed kW = 64.87
Federal transmission and ancillary services*	20.89	\$0.01097/kWh * 1904 kWh = 20.89

Why "federal"?		(unbundled portion of <i>scm kWh charge</i>)
Federal transmission cost adjustment*	4.79	Adjustment Schedule TCA-1 $0.002516/\text{kWh} * 1904 \text{ kWh} = 4.79$
LFCR adjustor	2.71	Adjustment Schedule LFCR $\$0.511/\text{kW} * 5.3 \text{ kW} = 2.71$
Tax Expense Adjustor	13.79	Adjustment Schedule TEAM Phase 1 $\$0.004194$ + Phase 2 $\$0.003048$ $= \$0.007242/\text{kWh} * 1904 \text{ billed kWh} = 13.79$
Cost of electricity you used	181.64	

* These services are currently provided by APS but may be provided by a competitive supplier.

Capisce? Simple, eh? Not in the least, I think. After many hours of effort, I was able to find the official approved tariffs, understand how they work, run the math and see that my November 2019 bill was calculated correctly. Here's a summary of the difficulties I ran into:

- 1) The APS website is of very little help to the person who wants to understand their bill.
 - a) The "understanding your bill" page does nothing more than give a wordier description of the bill line items. It does not link to the approved tariffs that are available on the website.
- 2) APS Customer Care Center staff were not able to explain to me how to understand my bill. After several calls, I was transferred to a person who, when I asked if he was "level 2" support said that he was "way above level 2"; he was able to answer all my questions. But how many ratepayers have the time and patience that I contributed to this effort and that will eventually find "the person" of a handful at APS that can FULLY explain every line of every bill?
- 3) APS has chosen to not use the same terminology on both the web and the actual bill which engenders confusion and has chosen to add the word "federal" in a couple places.
- 4) APS rate plan tariff sheets have a more logical presentation than the monthly bill. For an example of how unorganized the bill is, take a look again at the color coding I added in the bill line items table above to show how the "bundled" charges of the rate plan tariff are unbundled and not even kept together/contiguous on the bill.
- 5) APS (and the Commission?) have chose to have so many rate adjustment schedules that it almost doubles the line items on the bill which complicates things quite a bit.

I'm aware that APS, in their recently filed rate case application, has stated that they plan on introducing a simpler bill and maybe a simplification of the adjustment schedules. I'm not aware of any details of what that means, but I urge the Commission, intervenors, and stakeholders to keep a close watch on this aspect as APS has not shown in recent years an ability or inclination towards simplicity, transparency and accuracy.

In summary, no ratepayer should ever have to work so hard to understand their monthly bill. Please fix this!

--Steve Neil

P.S. Uh oh! I haven't researched and validated the bill lines items for taxes and fees yet.